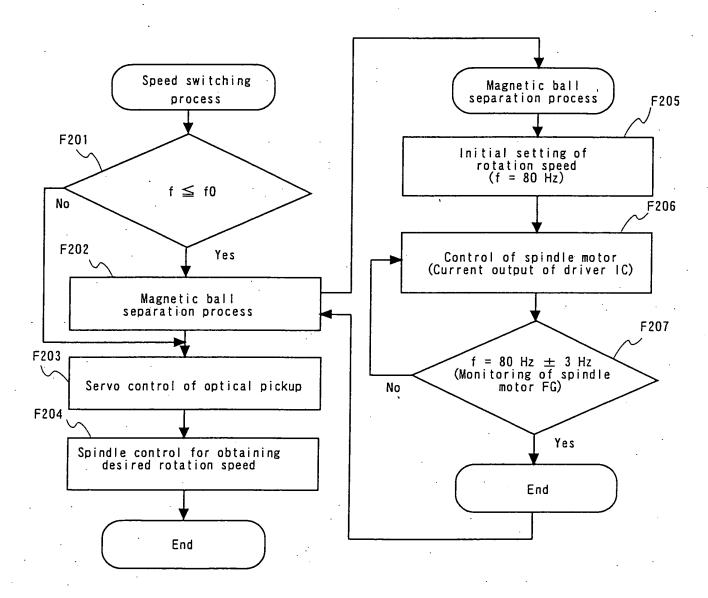
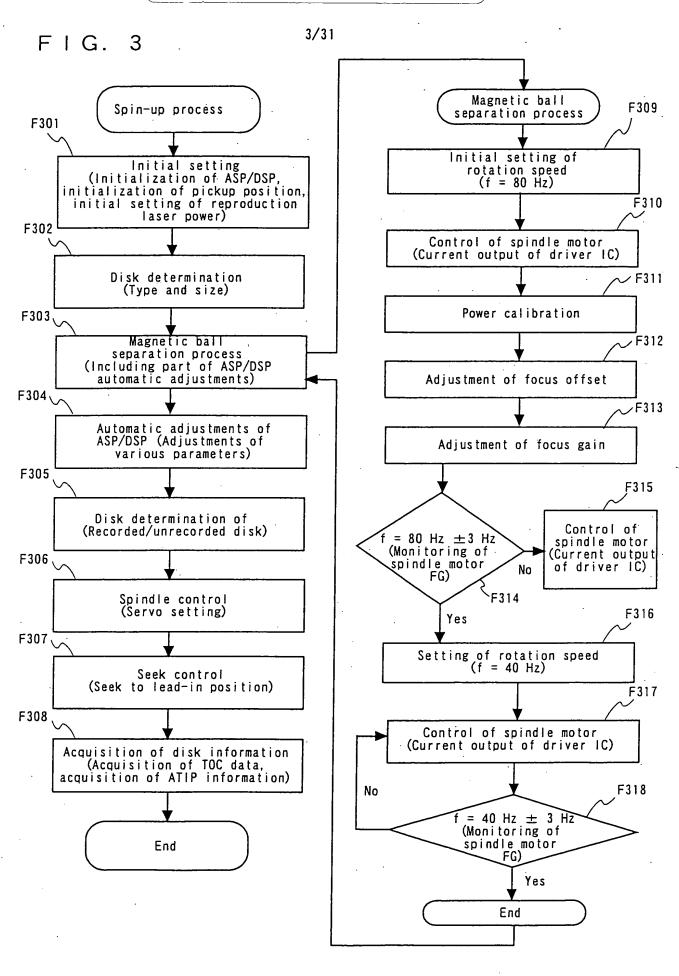
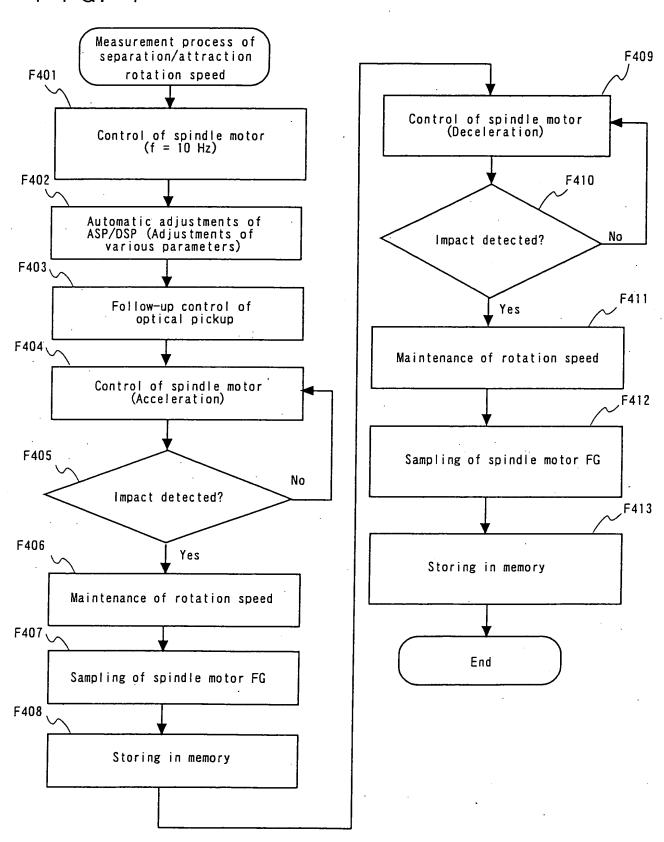
1/31 F I G. 1 Magnetic ball Spin-up process separation process F109 F101 Initial setting (Initialization of ASP/DSP, initialization of pickup position, Initial setting of rotation speed initial setting of reproduction (f = 80 Hz)laser power) F110 F102 Disk determination Control of spindle motor (Type and size) (Current output of driver IC) F103 F111 Magnetic ball separation process f = 80 Hz ± 3 Hz (Monitoring of spindle F104 motor FG) No Automatic adjustments of ASP/DSP (Adjustments of various parameters) F112 Yes F105 Setting of rotation speed (f = 40 Hz) Disk determination of (Recorded/unrecorded disk) F113 F106 Spindle control (Servo setting) Control of spindle motor (Current output of driver IC) F107 Seek control (Seek to lead-in position) F114 F108 $f = 40 \text{ Hz} \pm 3 \text{ Hz}$ (Monitoring of spindle motor FG) Acquisition of disk information (Acquisition of TOC data, No acquisition of ATIP information) End End

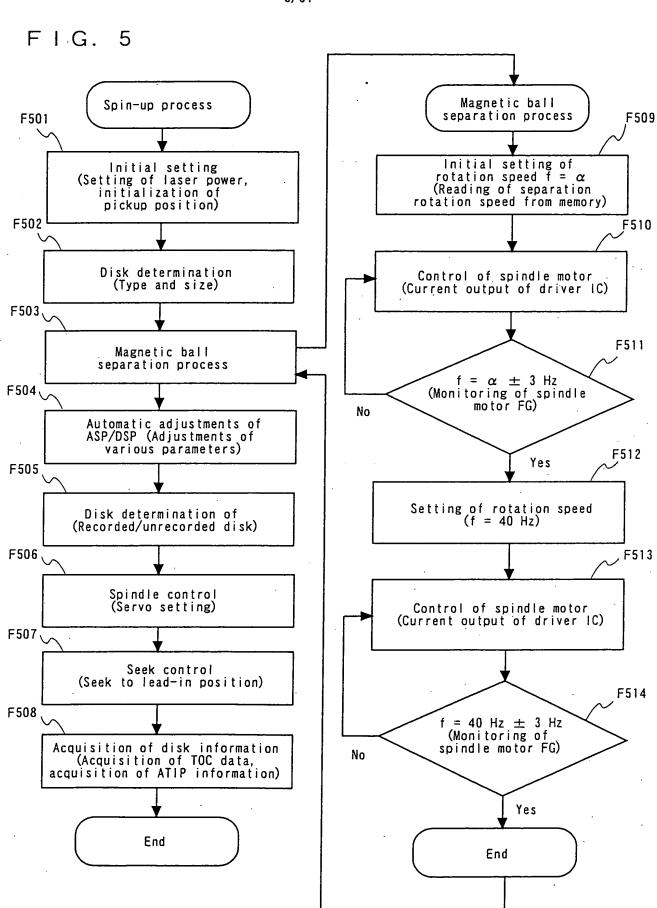


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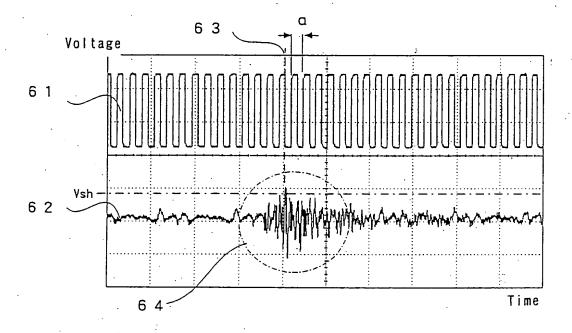




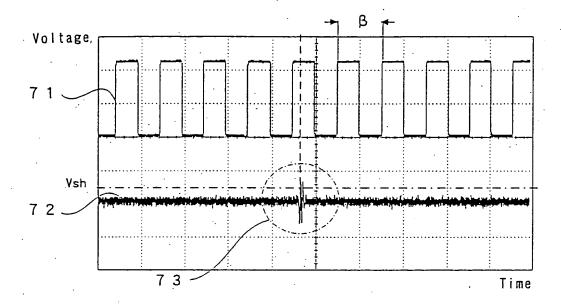


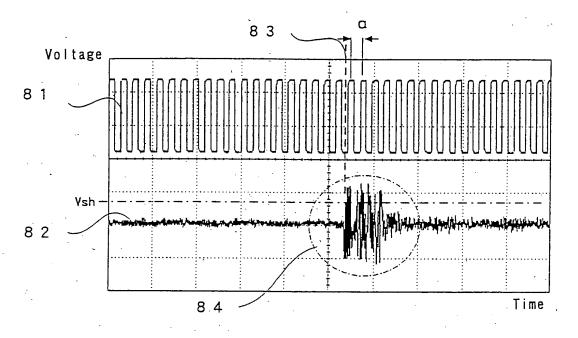






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F I G. 9

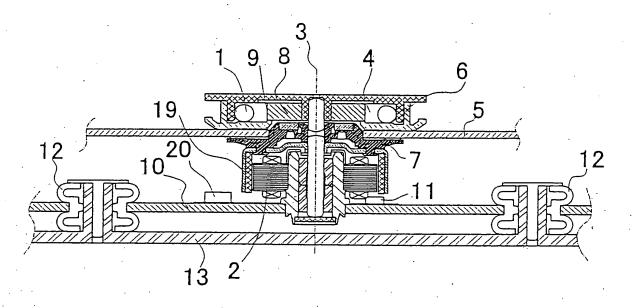


FIG. 10

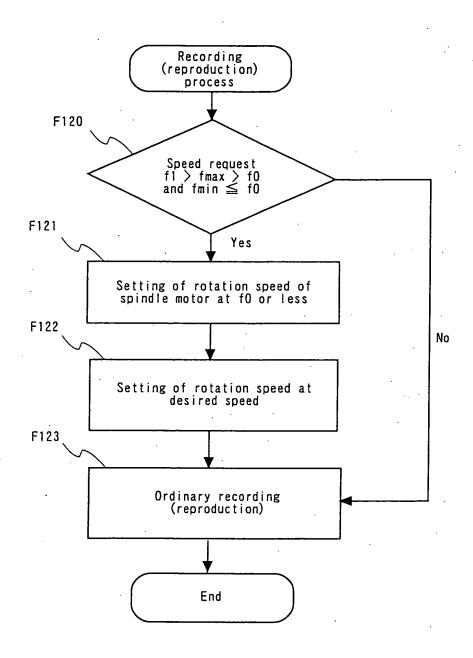
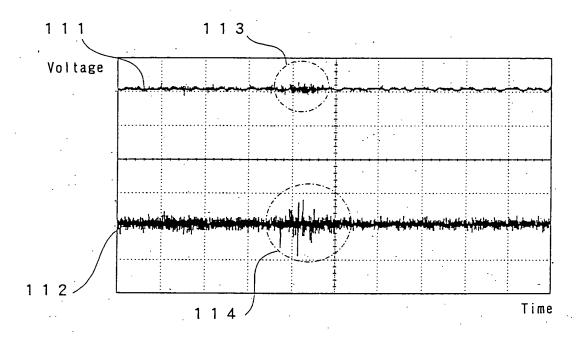
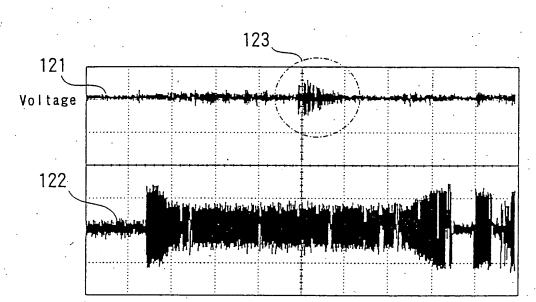


FIG. 11

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Time

FIG. 13

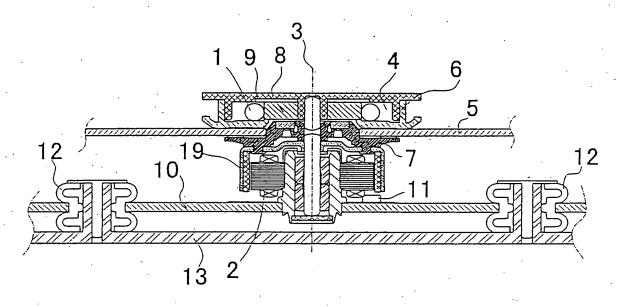
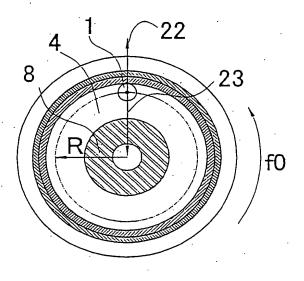


FIG. 14

Multiple speed for recording/ reproduction	Recording/ reproduction position (mm)	Rotation speed of disk (rpm)	Ratio of innermost rotation speed and outer most rotation speed
1	φ 44.7	598.47(9.97Hz)	3.08
	φ118	194.32(3.24Hz)	
2	φ 44.7	1196.94(19.95Hz)	3.08
	φ118	388.64(6.48Hz)	
4	φ 44.7	2393.88(39.9Hz)	3.08
	φ118	777.29 (12.95Hz)	3.08
. 8	φ 44.7	4787.76(79.8Hz)	3.08
	φ118	1554.57(25.91Hz)	

F I G. 15A

FIG. 15B



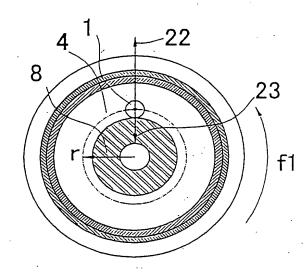


FIG. 16

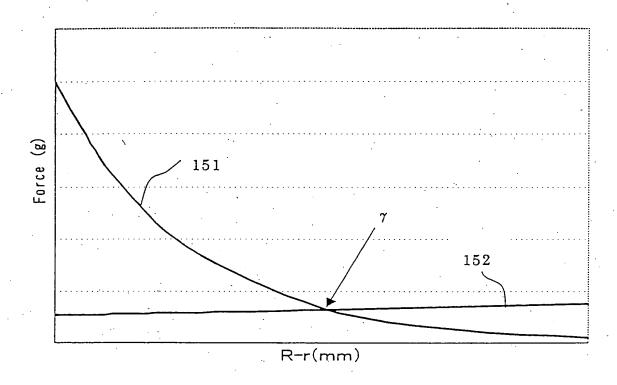
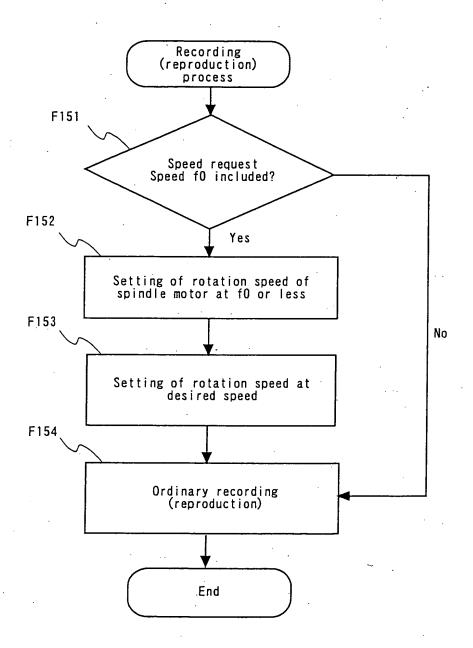


FIG. 17



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FIG. 18

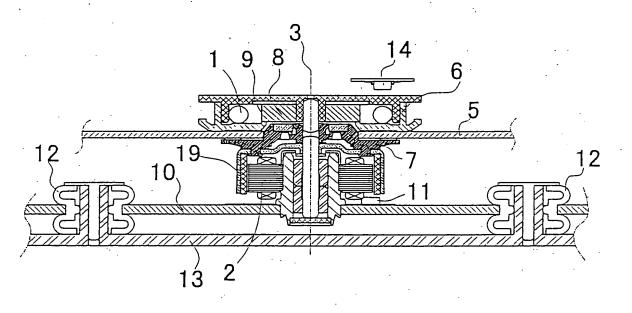
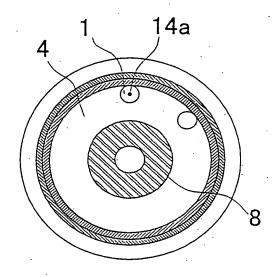


FIG. 19A

FIG. 19B



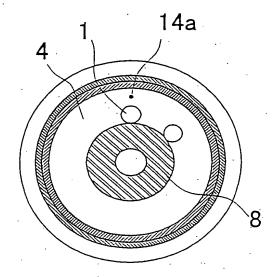
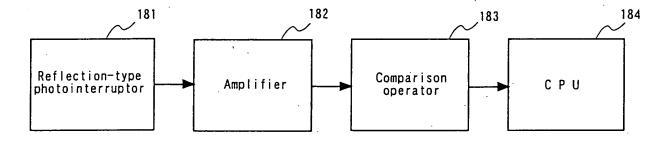
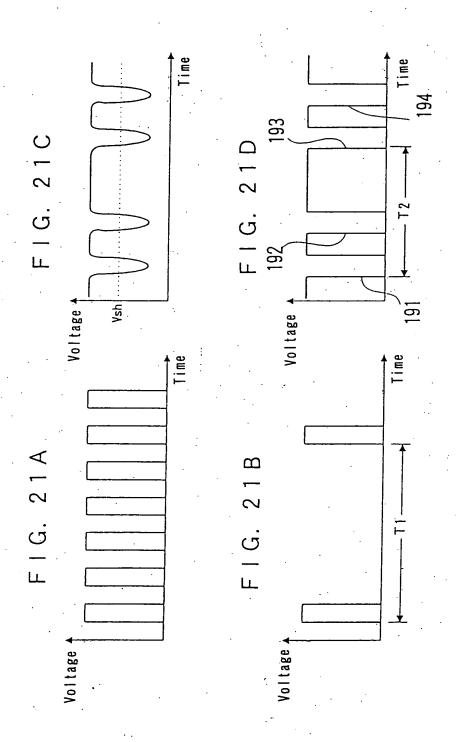
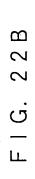


FIG. 20

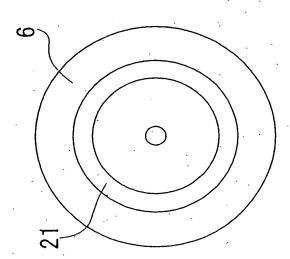


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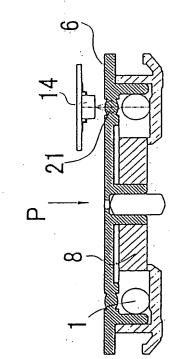


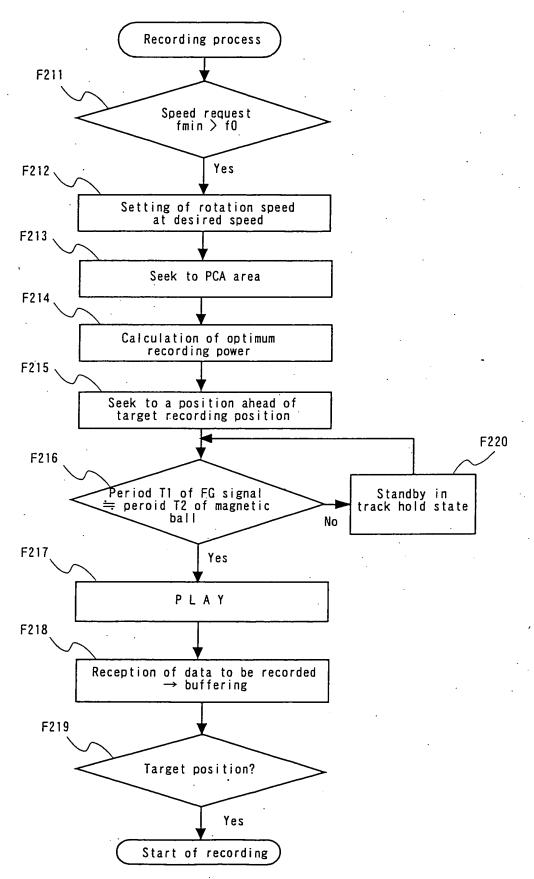


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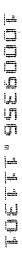


F1G. 22A





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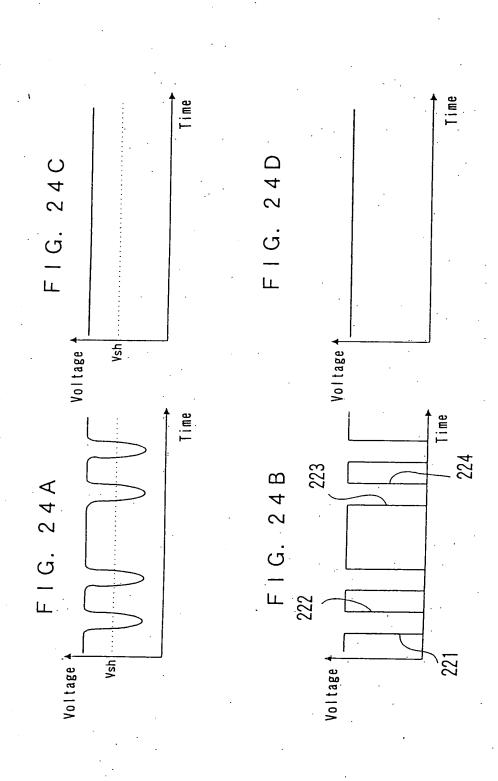


FIG. 25

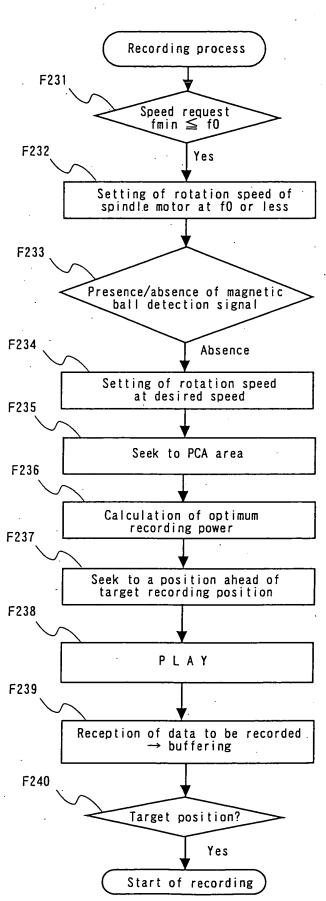
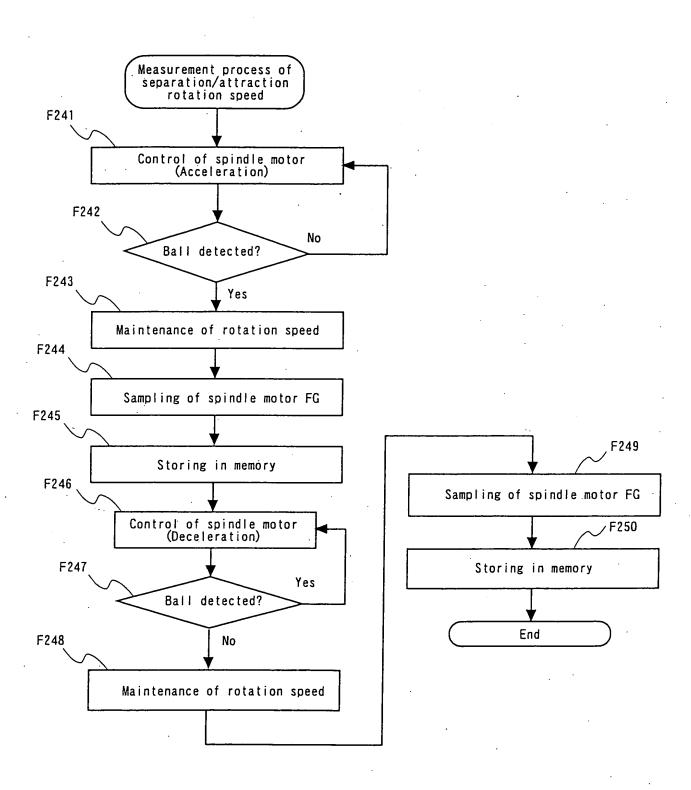
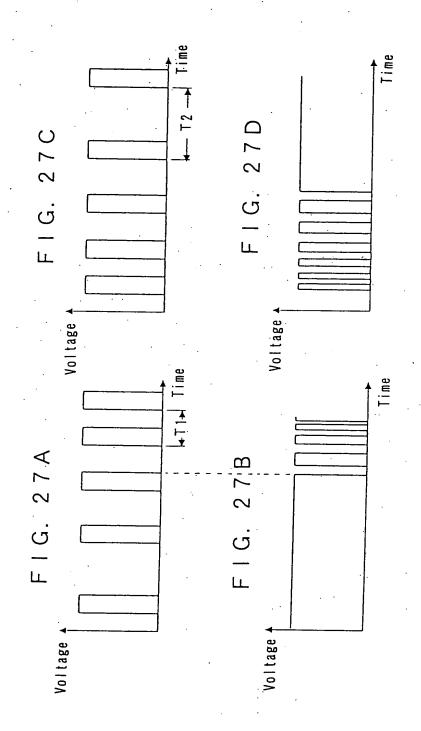


FIG. 26





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FIG. 28

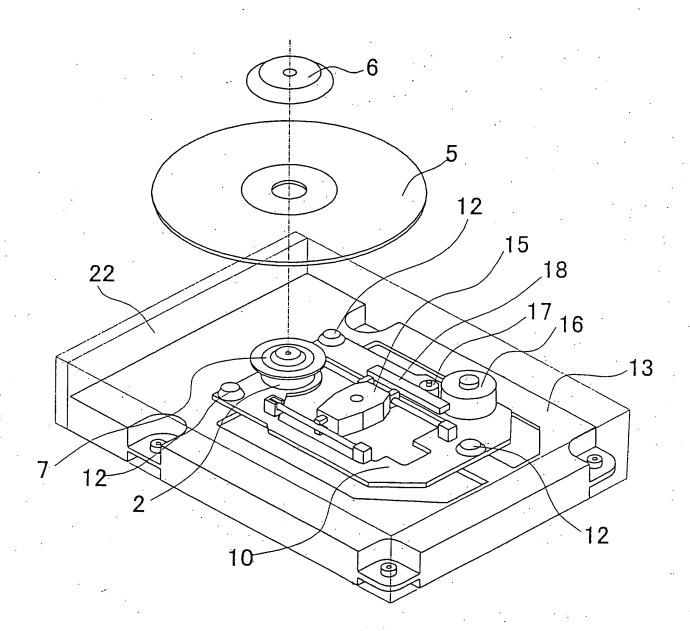
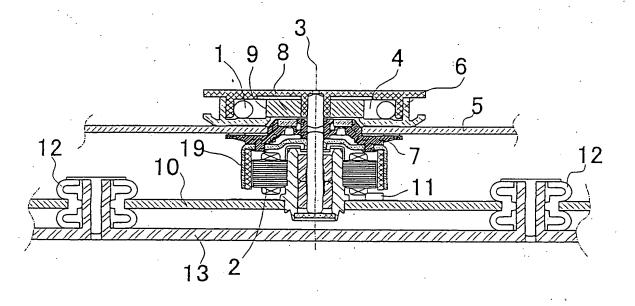
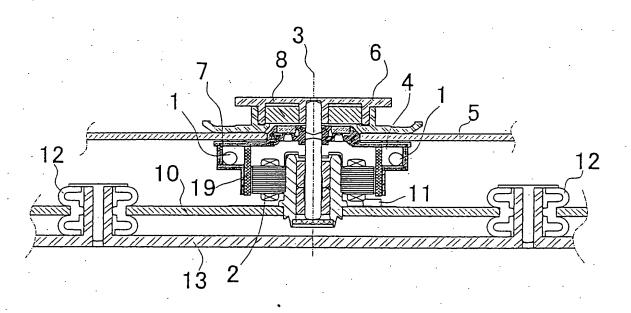


FIG. 29



<u> 10009356.14130</u>

FIG. 30



Title: Disk Drive and Control Method Therefor nventor: Kenji OKADA xpress Mail Mailing No. EL399256625US attorney Docket No. 8861-0418 (P24477-02)



FIG. 31

